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there still exists a considerable number of old philosophical instruments, both in the possession of private individuals and also in public collections and museums, where they are generally looked upon as mere curiosities, and where, from their isolated position, they scarcely deserve to be regarded in any other light. Such articles, however, if they were collected together, and arranged in historic series, would acquire a real value and importance; and I am sure that, in many instances, their present possessors would be glad to have an opportunity of transferring them to a collection where their true value would be thus recognised and appreciated.

“ It has occurred to me, that such a museum would be most advantageously established in connexion with the School of Natural and Experimental Philosophy in our University, where the nucleus for its formation already exists, and where its permanence and security would be insured. I have accordingly solicited and obtained permission from the Board to undertake its formation in connexion with that School, and will feel much indebted to the Members of the Royal Irish Academy, if they will kindly give me their assistance in carrying out the project, both by making it known as extensively as possible, and also by using their interest to procure donations of such articles as will add to the interest and value of the collection.

“ I have the honour to remain, Sir,

“ Your obedient Servant,

“ ROBERT V. DIXON,

“ *Erasmus Smith's Professor of
Nat. and Exp. Philosophy.*

“ *To the Secretary of the
Royal Irish Academy.*”

Mr. Robert Mallet read a paper giving an account of his experimental determination of the limits of the transit rate of

propagation of waves or pulses, analogous to those of earthquakes, through solid materials.

The experiments, of which this was a record, were conducted during three years past, at Killiney Bay and on Dalkey Island, off the Irish coast, and had for their object to determine the rate at which a pulse produced by the explosion of gunpowder, both in the discontinuous medium of the sand of Killiney Bay, and in the nearly continuous one of the granite of Dalkey Island, was propagated through these respective solids for given distances. In the case of the sand, the rate of transit might be presumed the slowest possible, in that of the granite the fastest, due to any media forming considerable portions of the earth's crust. Hence determinations in these would give the limits of earthquake wave motion, supposing such waves to be quite analogous to those experimentally produced.

The range chosen in the sand at Killiney Bay was a measured half mile, and the powder used in each mine was twenty-five pounds; in the granite at Dalkey Island, the range was about half this distance, and the charge for each mine, sunk in a jumper-hole of twelve feet in depth, was from twelve to fifteen pounds. The precautions taken for measuring both bases, the peculiar arrangements for firing the mines by galvanic battery, and for simultaneously releasing and stopping the chronographs, or instruments by which the interval of time of the explosion from the moment of ignition, and that of the pulse from its setting out to its arrival at the observer, were determined and registered, were minutely described; as also the new instrument devised by the author, and called by him the seismoscope, by which those minute and rapidly travelling pulses were made visible to the eye, and capable of being distinctly observed. The transit rates, as thus determined, were given, and compared with the recorded speed of earthquake waves in some great earthquakes in India and elsewhere;

and the instruments employed in these experiments were exhibited in action before the Academy.

The author made some remarks as to the unexpected slowness of transit of these pulses, and ascribed deficiency of velocity as predictable from the theory of elastic moduli, as probably due to the imperfect homogeneity and continuity of the media operated on. The relation that his results bore to those recently obtained as to the rate of sound in wrought iron, as determined in France, suggested that the hitherto received theory of sounds in solids would probably require to undergo revision.

Sir William Betham read a paper on the account of Thomas de Chaddisworth, Custodee of the Temporalities of the Archbishop of Dublin, from 1221 to 1256, from the Great Roll of the Pipe.

“The Academy require no evidence to satisfy them, that in historic importance the records of the country are the surest and safest guides to the historian. No histories of Ireland, yet published, synchronize with the records, but for the most part are delusive and erroneous.

“Nearly half of the last decade of the first moiety of a century has passed since I commenced an investigation into the ancient records of Ireland; and my accumulation of volumes of manuscripts on the subject surprise even myself. Much was done by the Record Commission, appointed in 1810, and the ponderous volumes published by it demonstrate the value of the muniments of the country, although they have not accomplished an object at all commensurate with the expenditure.

“Little was done by that Commission to preserve them, or make the records available. The subject has been brought under the consideration of the Government of many administrations; about four years since commissioners were appointed to investigate the present state of the Irish records; their report has been made, and a bill was prepared to provide for their safe custody, which has been long in the hands of the